Carpentaria Exploration Company Pty Ltd

Technical Report

No. 1498

Title: Exploration Licence No. 4660 "Chilling Creek"

Issuing Department: Exploration

Author: P. G. Simpson

Investigations Conducted By: CEC Darwin Staff

Submitted By: B. A. Hunt

Date: September 1987

Investigations:
- Geology
- Manganese
- Magnetite
- Gossan
- Rock geochemistry
- Soil geochemistry
- Soil
- Rock
- Water
- Stream sediments
- Drainage
- Geophysical
- Assaying
- Gravity

General:
- Geophysical
- Photogeology
- Geochemistry
- Metallurgy
- Geophysical Geology
- Local Geology
- Stratigraphy
- Reconnaissance
- Loggers
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<td>Gradient array chargeability plan Area J</td>
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EXPLORATION LICENCE No.4650 "CHILLING CREEK" NORTHERN TERRITORY

THIRD ANNUAL REPORT : YEAR ENDED AUGUST 20: 1987

1. INTRODUCTION

Exploration Licence No. 4650 "Chilling Creek" is located 200km south of Darwin, in the Northern Territory.

Extensive exploration in the first two years of tenure revealed scattered gold mineralisation within an area of several square kilometres known as "Terry's Prospect". Although some ore grade intersections and surface rock assays were obtained, no economic body of mineralisation has yet been found. During the third year of exploration, an induced polarisation survey was carried out over three separate parts of Terry's Prospect. Strong IP anomalies were found at two of these areas, both adjacent to known gold mineralisation. These anomalies now await testing by drilling.

2. LOCATION AND ACCESS

E.L.4650 is centred approximately 200km south of Darwin, N.T., in the Daly River region. Terry's Prospect lies in the northwest corner of the Hingate Mountains 1:100 000 scale sheet (5069) at about 130 deg. 32 min. E., 14 deg. 07 min. S. The prospect can be reached in under four hours drive from Darwin. Most of the area is trackless and the few existing tracks become impassable during the wet season and need regrading every year.

3. TENURE

E.L.4650, covering 1124 sq.km. (349 blocks), was applied for on May 14th, 1984, and was granted to Mount Isa Mines Limited on August 22, 1984, for a term of six years. The expenditure commitment for the first year of tenure was set at $15 000, for the second year at $110 000, and for the third year at $55 000.
The Licence area was reduced at the end of the second year to 173 blocks, and further reduced to 86 blocks at the end of the third year. The area as it will stand during the fourth year is shown on the map on the following page.

No special conditions apply to the Licence, other than a bond for $5000 against environmental damage being required because some of the Licence lies over the "Fish River Block" - a former pastoral lease now owned by the NT Government Agricultural and Marketing Development Authority.

4. WORK BY CARPENTARIA EXPLORATION COMPANY PTY LTD

4.1. First and second years of tenure

During the first year, work included soil and rock geochemistry, ground magnetics, thin section studies, geological mapping, eighteen reverse circulation percussion drillholes, 2.5 line kilometres of costeaining, and a regional helicopter-borne stream sediment sampling programme.

In the second year, follow-up helicopter-borne stream and rock sampling work was carried out, and additional costeans totalling 0.75 kilometres were dug.

The above work is fully described in the first two annual reports, and will not be repeated here.

4.2. Work done during the third year

4.2.1. Induced Polarisation Survey

In October 1986 an IP survey was conducted over areas A, C and J of Terry's Prospect. The contractor was Solo Geophysics & Co., of Adelaide. The object of the work was to detect disseminated sulphides which might be a host for gold mineralisation in these areas.

A Huntec Mk IV receiver combined with a Huntec 7.5 kw transmitter was used, with a 2-second on: 2-second off timing sequence. Areas A and C were surveyed using 50m dipole-dipole with measurements taken to n=6.

Area J was surveyed using a gradient array, with current electrodes 1800m apart. A 50m dipole spacing was used for the receiver with 25m station spacings.
E.L. 4650 "CHILLING CREEK" N.T.: REDUCTION OF AREA FOR FOURTH YEAR

AREA TO BE RETAINED: 86 BLOCKS

Scale 1:250,000

CEC DRY. NO. 1/6585
The locations of all the IP lines and the positions of the IP anomalies recorded on them are shown on the 1:10 000 scale map (drawing No. 1/6588) included in this report.

In Area A, seven lines were measured. Pseudo-sections of these are appended to this report. Also, plan maps of the n=2 and n=4 values for the IP data are attached, as well as for the resistivity at n=4. (Note that the scaling of these plans is limited by the computer printer output.) Above background chargeabilities were recorded on lines 9375E, 9300E, 9200E, and to a lesser extent on line 9100E. The best defined anomaly is on line 9300E, with its source between 9800N and 9850N. This source has not been tested by previous drilling, but is close to the area from which good drilling results were obtained earlier. It is noteworthy that in Area A, the zone in which the best previous intersections occurred (holes TRP-17 and TRP-18) did not register as an IP anomaly.

At Area C, five lines were measured. The pseudo-sections are attached. No chargeable sources were found on line 10 400N, but the lines to the north show anomalies which form a trend to the north-east, and which is open in that direction. On line 9600N, the anomaly appears to represent two sources, one of which may have already been tested by holes TRP-6, -7, -8, -9, -10 and 11, in which trace to minor pyrite was observed. The other source is more to the east, and would not have been intersected by the drilling to date. The anomalies on the lines to the north change in character, but are within percussion drill depth.

At Area J, a gradient array was used to cover a broad area in which several geological, geophysical and topographic trends intersect. The data indicated that no chargeable source was present here. The chargeability data recorded are shown on the appended plan (drawing no. C1405).

4.2.2. Stream and rock geochemistry.

As a further follow up to the earlier helicopter-borne stream geochemical work, a weak bulk cyanide leach gold anomaly was investigated at a location about 5km NW from Area A. This area is on the northern margin of the Wangi Basics mass, and is cut by a prominent east-west striking quartz filled fault, shown on the NTGS 1:25 000 scale preliminary geological map of the area. Eleven sparsely distributed ferruginous and partly gossanous float rock specimens were assayed. The highest results were 1.00 and 0.47 g/t Au.
These results probably explain the stream anomaly and require further following up, although this is not a high priority at present.

The location of this area is shown on drawing no. 1/6587 included in this report. The assay results are given in Appendix 1.

Two bulk cyanide leach samples were taken from an area a few kilometres west of Terry's Prospect, and 1km to 2km west of Specky Creek (see first annual report). Minus 80 mesh samples were taken at the same sites, to be assayed for Cu, Pb, Zn, Ag, As, Fe, Mn, Bi, Cd, Sb, Mo, Cr, Ni and U. The area is generally flat, with occasional outcrops of the Murrakamangee Granite. One of the bulk cyanide leach samples returned a result of 6.15 ppb Au, which is regarded as definitely anomalous and which will be further investigated in the near future.

The locations of the two stream sample sites is also shown on drawing no. 1/6587, and the assay results for them are given in Appendix 1.

5. CONCLUDING COMMENTS

The IP survey has revealed two strongly anomalous zones close to areas in which gold mineralisation has been found in Carpentaria's earlier work in the district. Both these anomalies require initial testing by percussion drilling, and by diamond drilling if the percussion results so warrant.

Drilling of these anomalies was planned for the 1987 dry season period of the third year of tenure, but because of the present shortage of drill rigs, the drilling at Terry's Prospect has had to be postponed. However, it is still expected that these targets will be drilled before the end of the current dry season.

The bulk cyanide leach gold anomaly to the west of Terry's Prospect is seen as an important result requiring thorough ground investigation. It is planned to do this while the percussion drilling is in progress at the IP anomalies.

P.G. Simpson
September 1987.
APPENDIX I

STRAEM AND ROCK GEOCHEMICAL ASSAYS
## ANALYSIS

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**METHOD:** A7/1, A7/3

---

*EL4650 NT* - Rock samples from approx. 5km NNW of Terry's Prospect.
**Sample Information**

**Client:** CARPENTARIA EXPLORATION CO. PTY. LTD  
**Address:** P.O. BOX 21, BERRIMAH, N.T. 5788

**Contact:** MR. P. SIMPSON

**Order No:** 473226  
**Sample Type:** STREAM SEDIMENT

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**Detection Limit:** 50

**Comments:**

*Bulk Cyanide Leach Samples, West of Terry's Prospect, Immed. W of Specky Creek, El 4650 N.T.*

**Batch Number:** L154  
**No. of Samples:** 2  
**Date Received:** 18/11/86  
**Date Completed:** 10/12/86
**Australian Laboratory Services**
**CONSULTING ANALYTICAL CHEMISTS**
**LABORATORY REPORT**

**Client:** CARPENTARIA EXPLORATION CO. PTY. LTD  
P.O. BOX 21, BERRINAH, N.T. 5786

**Contact:** MR. P. SIMPSON

**Order No:** 473226  
**Sample Type:** -800 STREAM SED

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**Detection Limit:**  
- Cu: 5 ppm  
- Pb: 10 ppm  
- Zn: 5 ppm  
- Ag: 4 ppm

**Comments:**

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**Signatory:** [Signature Image]

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**Signatory:** [Signature Image]
APPENDIX 2

IP SURVEY RESULTS
CARPENTARIA EXPLORATION CO.LTD
Area : E.L. 4550, DALY RIVER, N.T.
Grid : TERRYS PROSPECT, SET UP #10
Line No. : S100E
Setup points : 5000
Scale : 1 : 2000
Date : 261086
Job No. : 644

INSTRUMENTATION USED
Rx Type : Hunter Mk IV s/n
Tx Type : Hunter Mk IV 7.5 km

SURVEY : 1.P.& RESISTIVITY
METHOD : Dipole.Dipole Array L= 50m

Time sequence : 2 sec on, 2 sec off
Integration time recorded : Channels 0-9
Integration time plotted : Channels 0-9
Delay time, TD : 50 msec. after cut off
Linear channel width : 150 msec.

SECTION A : Apparent Chargeability (mv/v)
contour interval 0 msec
SECTION B : Apparent Resistivity (ohm m)
logarithmic contour interval

Surveyed by SOLO GEOPHYSICS & Co

CEC Drg. No. C1394

CR87/1382
CARPENTARIA EXPLORATION CO.LTD
Area: E.L. 4850, DALY RIVER, N.T.

Grid: TERRY'S PROSPECT [JOB NO. 844]

Line No: 8500E
Setup points: 10000N:
Scale: 1:2500
Date: 191086
Job No. 844

INSTRUMENTATION USED
Rx Type: Hunttec Mk 4 F s/n
Tx Type: Hunttec Mk IV 7.5 KN

SURVEY: IP & RESISTIVITY

METHOD: Dipole, Dipole Array L= 50m

Time sequence: 2 sec on, 2 sec off
Integration time recorded: Channels 0-9
Integration time plotted: Channels 0-9
Delay time, TO: 50 msec. after cut off
Linear channel width: 150 msec.

SECTION A: Apparent Chargeability (mv/v) contour interval 0 msec

SECTION B: Apparent Resistivity (ohm m) logarithmic contour interval

Surveyed by SOLO GEOPHYSICS & Co.